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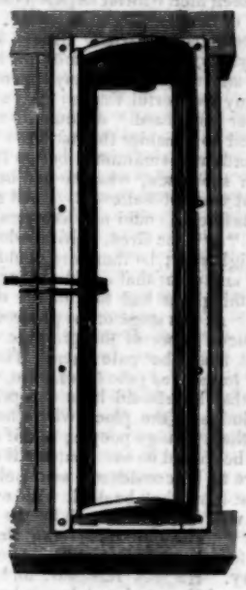
SECTOR VALVE GATE FOR CANAL LOCKS.

No. 1.

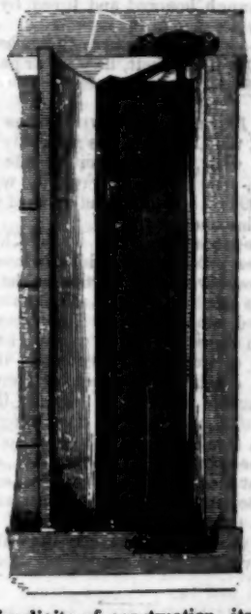
Perspective side view of a Lock Gate of the Enlarged Erie Canal.

Mr. Geo. Heath of the village of Little Falls in this state, is the inventor of a new and useful hydraulic gate—especially useful in filling and evacuating locks, docks, basins and flooms, and generally in passing and discharging water for mill purposes, under a pressure or *head*. It has been fairly tested at Lockport and Little Falls, on the Erie canal, and found to word, as appears by the testimonials of several experienced lock tenders, with greater ease and facility than any other kind of gate hitherto used. We have frequently had occasion to observe, with regret, the want of improvement in much of the clumsy apparatus upon the state work—particularly in the sluice gates and weight locks. The public and private loss by these alone, in time and destruction of property, is immense.

The improvements introduced by Mr. Heath, consist, as set forth in his specification, "in using for the gate, singly or in two parts, the segment of a cylinder for the front of the gate, with the radius, which cuts the centre line of the arch of the segment, lying horizontally, and with the arch next the water which is to be passed. This front of the gate rests for its support againsts the pressure of the water, on gudgeons at the center of the cylinder, which are connected with the front, either by arms or by the sector of a circle at the two ends of the segments, as exhibited in the annexed cuts." The front of the gate is moved by means of a lever, screw, or other mechanical power, as seen in No 1. The advantages proposed to be gained by this form of gate consists in its cheapness, its simplicity of construction, its durability, freedom from accident, and wear, and the ease with which it is opened and closed over a large aperture. "When used single, the simplicity of its construction is such, that the eccentric portion of its front should correspond with the weight of gate and head of water; their equilibrium is found to an unlimited extent." The invention of Mr. Heath consists in making the gate in segments of cylinders, hanging upon gudgeons, so that the pressure of the water against the gate shall be borne by gudgeons, instead of the edge of the slide, as in the common sliding gate. He has also overcome an important defect arising from the wear of the gate, by which, instead of producing a a leak, *the wear tends to tighten the joints*. With the assistance of the accompanying cuts, the mode of construction and operation will be apparent to the reader, and those who are conversant with the use and deficiencies of the water gate in common use, will readily comprehend the superior advantages of this new one. We hope to see it generally adopted.

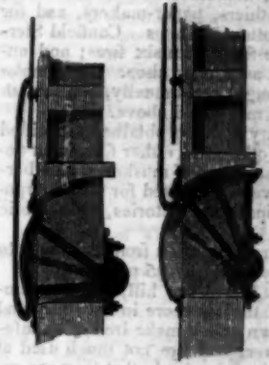


No. 2. Valve open—front view.



No. 3. Valve shut—rear view.

No. 4. No. 5. No. 6.



No. 4, End view, valve shut.
No. 5, End view—valve open.
No. 6, Screw for tightening gate.

SALISBURY IRON WORKS.

We make the following extract from *Silliman's Journal of Science and Arts*, vol 19, p. 322, et seq. It was written several years ago, and the number of furnaces and amount of iron manufactured may have considerably increased. The mine is situated in the western part of the town of Salisbury, Ct., and has for many years been one of the most important in our country, on account of the superiority of the iron manufactured from its ore. The Journal says:

This bed of ore has been opened upwards of a century. The grant to the original proprietors bears date Oct. 27, 1831. During the first forty or fifty years, the quantity of ore raised was small; but from that period to the present, from four to five thousand tons have been raised, annually. At first, no duty was paid to the owners of the ore; afterwards 25 cents per ton was required, which sum has gradually increased to $1.25 per ton.

The expense of raising the ore is $1.75 per ton. The business is carried on by small, independent parties, who, to the number of six or eight, work together in a pit or excavation by themselves, blasting, picking, and throwing the ore into heaps, in readiness for transportation to the furnaces. Another class of men transport the ore, at the rate of sixteen cents a mile per ton; and a general agent superintends the weighing.

The principal furnaces to which it is carried, are, 1. Chapin, Sterling & Co's furnace, situated in the north part of Salisbury, seven miles from the mine; 2. The Salisbury Iron Company's furnace, at four miles distance; 3. Holley & Coffing's furnace, two miles—the oldest furnace in the vicinity, built nearly 70 years ago; 4. Canfield, Sterling & Co's furnace, on the Housatonic, nearly seven miles from the ore hill; 5. the Lime-

rock furnace, about five miles from the hill, on the site of the first forge erected in that part of the country, more than a century ago. In all these places the ore is reduced in high charcoal furnaces, and yields upon an average 50 per cent of pig iron.

The annual yield of these furnaces, in pig iron, may be stated as follows:—No 1, from 400 to 600 tons; No. 2, 400 tons; No. 3, from 500 to 600 tons; No. 4, from 500 to 800 tons. Formerly a great proportion of this iron was made in pigs; but for the last few years into bar iron at the furnaces. The Salisbury Iron Company have two forges at Riga, containing seven fires, an anchor and screw shop with two fires, a lathe for turning iron, and a trip-hammer shop. They have also at Limerock a forge with six fires. This company makes about 450 tons of wrought iron annually, which is made into the following articles: bar iron for musket and rifle barrels, and for common uses; axletrees, crowbars and tires for wheels; irons for grist and saw-mills; anchors, large and small; shafts for steam engines, and manufactories of all kinds; large screws for clothiers, paper-makers, and for pressing bales of cotton and hops. Canfield Sterling & Co. have one forge with six fires; and another with two and an anchor shop. They make about 300 tons of tough iron annually, and furnish most of the articles mentioned above.

The best Salisbury Iron has obtained a decided preference over all other iron, either foreign or domestic, for the construction of musket or rifle barrels, and is extensively employed for these purposes in all our principal gun factories, both public and private.

The expense of transportation from Salisbury to the Hudson river by teams, is $5 per ton.

Besides the great bed at Ore hill, there are numerous deposits of the same ore in Salisbury and the neighboring town; they make iron of an inferior quality, however, and are not much used at present, though it is understood, that they are capable of furnishing considerable quantities of ore, if it shall, from the exhaustion of Ore hill, ever come to be wanted.

We dismiss this subject with the single remark, that the inexhaustible magnetic iron mines of the northern part of this state, are pronounced by at least one of the state geologists, to be capable of furnishing better iron even than the Simsbury ore.

FARNHAM'S EXPEDITION TO OREGON.

From the interesting work of Mr. Farnham we make the following extracts.

Red River Raft.—The Red river has a course of about 1500 miles. It derives it name from a reddish color of its water, produced by a rich red earth or marl in its banks, far up in the prairie wilderness. So abundantly is this mingled with its waters during the spring freshets, that as the floods retire they leave upon the lands they have overflowed a deposit of half an inch in thickness. Three hundred miles from its mouth commences what is called "The Raft," a covering formed by drift-wood, which conceals the whole river for an extent of about 40 miles. And so deeply is this immense bridge covered with the sediment of the stream, that all kinds of vegetable common in its neighborhood, even trees of a considerable size, are growing upon it. The annual inundation are said to be cutting a new channel near the hills. Steamboats ascend the river to the Raft, and might go fifty leagues abve, if that obstruction were removed.

Snake Indian—Lewis and Clarke.—Among the several personage whom I chanced to meet at Brown's Hole, was an old Snake Indian, who saw Messrs. Lewis and Clark on the head waters of the Missouri in 1805. He is the individual of his tribe, who first saw the explorers' cavalcade. He appears to have been galloping from place to place in the office of sentinel to the Shoshonie camp when he suddenly found himself in the very presence of the whites. Astonishment fixed him to the spot. Men with faces plae as ashes, had never been seen by himself or nation. "The head rose high and round, the top flat; it jutted over the eyes in a thin rim; their skin was loose and flowing, and of various colors." His fears at length overcoming his curiosity, he fled in the direction of the Indian encampment. But being seen by the whites, they pursued and brought him to their camp; exhibited to him the effects of their fire-arms—loaded him with presents, and let him go. Having arrived among his own people, he told them he had seen men with faces pale as ashes, who were makers of thunder, lightning, &c. This information astounded the whole tribe. They had lived many years, and their ancestors had lived many more, and there were many legends which spoke of many wonderful things; but a tale like this they never had heard. A council was therefore assembled to consider the matter. The man of strange words was summoned before it; and he rehearsed, in substance, what he had before told to others; but was not believed. "All men were red, and therefore he could not have seen men as pale as ashes." "The Great Spirit made the thunder and the lightning; he therefore could not have seen men of any color that could produce it. He had seen nothing; he had lied to his chief, and should die." At this stage of the proceedings, the culprit produced some of the presents which he had received from the pale men. These being quite as new to them as pale faces were, it was determined "that he should have the privilege of leading his judge to the place where he declared he had seen these strange people; and if such were found there, he should be exculpated; if not, these presents were to be considered as conclusive evidence against him, that he dealt with evil spirits, and that he was worthy of death by the arrows of his kinfolks." The pale men—the thunder-makers—were found, and were witnesses of the poor fellow's story. He was released; and has ever since been much honored and loved by his tribe, and every white man in the mountains. He is now about 80 years old, and poor. But as he is always about fort David Crockett, he is never permitted to want.

Indian Burial Ground.—Thus far below Vancouver, the Columbia was generally more than 1000 yards wide, girded on either side by mountains rising, very generally, from the waters side, 2000 or 3000 feet in height, and covered with dense forests of pine and fir.

These mountains are used by the Chenooks as burial places. During the epidemic fever of 1832, which almost swept this portion of the Columbia valley of its inhabitants, vast numbers of the dead were placed among them. They were usually wrapped in skins, placed in canoes, and hung to the boughs of trees 6 or 8 feet from the ground. Thousands of these were seen. They hung in groups near the water side. One of them had a canoe inverted over the one containing the dead, and lashed tightly to it. We were often driven close to the shore by the heavy wind, and always noticed that these sepulchral canoes were perforted at the bottom. I was informed that this is always done for the twofold purpose of letting out the water which the rains may deposite in them, and of preventing their ever being used again by the living.

Astoria.—Astoria has passed away; nothing is left of its buildings but an old batten cedar door; nothing remaining of its bastions and pickets, but a half a dozen of the latter, tottering among the underbush. While scrambling over the grounds, we came upon the trunk of an immense tree, long since prostrated, which measured between six and seven fathoms in circumference. No information could be obtained as to the length of time it had been decaying.

"Will you give me that ring on your finger," said a village dandy to a girl, "for it resembles my love for you—it has no end." "Excuse me, sir, I choose to keep it as being emblematical of mine for you—it has no beginning.

THE LABORING CLASSES OF EUROPE AND AMERICA.

Extract from an Address before the Albany County Mechanic's Association. (Continued.)

BY E. G. SQUIER.

Such, I repeat, is the social and physical condition of the laboring classes of Europe. I will glance for one moment to their intellectual condition.

It will readily be supposed, that under such a state of society as we have described, such a thing as intellectual culture is almost entirely unknown. Upon this subject, did time permit, I could present you with facts as startling as were those which referred to their physical state. It is perfectly well known to all who hear me, that as a class, the mechanic and manufacturing population of Europe is grossly ignorant and depraved, while the agricultural population, with as little exception, is set down as incurably stupid. Every book of travels, not less than every opportunity of personal observation, informs us of the deplorable ignorance of the greater portion of those by whom the work of the community is done in foreign countries. The reason is obvious. Under institutions, such as exist there, it is a moral impossibility, that as a general thing, the intellect of man should rise above a level corresponding to his social condition; and notwithstanding the laudable efforts made for their intellectual advancement by philanthropists, the task is a hopeless one, unless the whole social organization undergoes a total change. No general or permanent advance can take place, where it is made, as in England, a party question how far it is right and proper, how far it is prudent and safe to enlighten the people. It is urged that a general diffusion of knowledge would only serve to make the people discontented with their condition; this is most true, when that condition is not the proper one; and that is not man's proper condition if a general diffusion of intelligence would serve to make him discontented with it. The man who, in this country, should express the opinion that she education of the people forboded ill to the state, would merely be regarded as wanting common sense and sagacity. We are not only accustomed to that state of things but we regard it as our great blessing and privilege, to which the higher orders of Europe look forward as the fearful result of bloody revolutions. The representative system, and our statute of distributions, are regarded by us, not as horrors consequent upon a convulsion of society, but as the natural condition of the body politic.

That such a result in European society, would be the consequence only of bloody revolutions and long years of struggle and toil, cannot be doubted. Intellectual and physical improvement cannot take place under its present organization, and without these, without a general diffusion of knowledge and intelligence, a government like our own cannot exist. Notwithstanding all this, if we mistake not the signs of the times, a great revolution in European society is at hand. It may be a revolution of terror, a revolution of blood; and God only knows through what it must pass before the grand object may be obtained; but sooner or later, an entirely new organization of society must take place, in which general and universal knowledge consequent upon human improvement, will pave the way for social and political freedom. Without a radical change in European organization, I repeat, without a change in its institutions, improvement cannot take place; and unless that improvement *does* take place, the people there are unfit to enter into a system of free government like ours. It is indeed a dreadful alternative before them, but that it will be met, and in the end result as we have said, I firmly believe. The French revolution has shown us, how utterly incapable were the people for self-government, at *that* period, but that revolution made clear the way for advancement, improvement, which in its turn, will open a path to freedom—freedom, a gift *too precious*, a trust *too sacred* to be committed to the hands of Ignorance.

Such, then, is the social, physical, and intellect-

ual condition of the laboring classes of Europe, socially degraded, and without influence—physically oppressed, starving, wretched,—intellectually, miserably ignorant.

Shall I now draw a picture of American society, and show you the position the laboring classes occupy here, as a contrast? Is it necessary to show you in what the difference consists, to point it out to you? No, no, situation, government, society, all are here the very reverse. Entirely different principles have entered into the composition of American society; different circumstances attended its birth and organization. The spirit of our institutions differ no less than the geographical features of our country. In reflecting on the origin of American society, I have been deeply impressed with the marks of special providence that attended it. It seems to me as if that little band of men who, with their good pastor, John Robertson, after a long and stormy passage of five months, disembarked in the dead of winter upon the bleak shores of New England, were the instruments, under God, of establishing in this country a new society, different in all respects from any other on the globe, and of setting an example which will sooner or later be followed by every nation and people. "Methinks," in the language of Everett, "I see it now, that one solitary adventurous vessel, the Mayflower, of a forlorn hope, freighted with the prospects of a future state, and bound across the unknown sea. I behold it pursuing with a thousand misgivings, the uncertain, the tedious voyage. Suns rise and set, and weeks and months pass, and winter surprises them on the deep, but brings them not the sight of the wished-for shore. I see them now, scantily supplied with provisions, crowded almost to suffocation in their ill-stored prison; delayed by calms, pursuing a circuitous route; and now driven in fury before the raging tempest, on the high and giddy waves. The awful voice of the storm howls through the rigging. The laboring masts seem straining from their base; the dismal sound of the pumps is heard; the ship leaps as it were madly from billow to billow; the ocean breaks, and settles with engulfing floods over the floating deck, and beats with deadening weight against the staggering vessel." But there amid the hell of waters, dashing in spray above the quivering masts; there with the struggling ocean around, and with the black heaven riven by the ragged lightnings and bursting with the thunder's wrath above them; there is the little band whose altar-fires shall soon burn upon the high hills of an unknown land; there the germ of that spirit of freedom and equality which shall spring up in a luxuriant growth amid the giant forests of America; there the spark of liberty, which fanned by breezes from Heaven, shall fill the world with flame, tip with a ray of glory every mountain, and span with a rainbow halo every valley of our globe.

It is true other settlements were established in various quarters of the country; but how different the motives that led the colonists to leave their native shore. Love of gold, adventure, or curiosity, were the most prominent; and it was in New England alone, it was the pilgrims at the rock of Plymouth, who sought on the ice-bound shore of America—not the glittering dust men call gold, not to gratify an excited curiosity—but an asylum from oppression, a spot where they might worship their God in peace, and lay the foundation for a glorious superstructure, dedicated to civil and religious freedom. Deserted by the ship that bore them, the last link severed which bound them to the world of men; *alone*, amid a waste of snow, a prey to the elements and to want—destitute of the necessaries of life, and surrounded by savages, of whose numbers, power and temper they were fearfully ignorant; still they bravely suffered on, reposing their trust on the arm of Omnipotence, nerved for every trial. There were no complaints, no murmurings. Years of banishment had weaned them from their native land; and when they left her shores, they shook off the abuses and errors which had been accumulating for a thousand years; and animated by the purest of principles, the holiest of motives, rested the edifice of their freedom on a foundation as pure as the snows around them. "Blessed the spot, the only one on earth, where such a foundation was ever laid. Blessed the spot, the only one on earth, where man has attempted to establish the good, without beginning with the sad, the odious, the often suspicious and unsuccessful task of first pulling down the bad!"

"But the trials of wandering and exile, of the ocean, the winter, the wilderness, and the savage foe, were the final assurance of success. It was this that put away from our fathers' cause all patrician softness, all hereditary claims to preeminence. No haughty chief was desirous to lead on the ill-provided band of despised puritans. No effeminate nobility crowded into the dark and austere ranks of the pilgrims. No well endowed clergy were desirous to quit their cathedrals, and set up a splendid hierarchy in the frozen wilderness. No craving governors were desirous to be sent over to our cheerless provinces of ice and snow." Hence it was, that those barriers, which I have pointed out to you as the first great obstacles in the way of European improvement and liberty, were not to be found among us. Hence it was, that society assumed here a peculiar and happy form. Hence it was the leaven of our pilgrim fathers diffused itself throughout our whole country, and seventy years ago made us a free and independent nation—a nation which recognises no distinctions, *at the north*, between man and his fellow. Oh, how sad the thought that I must make this reservation—how melancholy the fact! Oh America, land of my birth, land of my hopes and pride! America, to whose glory a world is witness—would to God that the last dark stain upon thy garments of purity was washed away; that the last remnant of oppression were consigned to oblivion.

ORGANIZATION OF INDUSTRY.

An Address delivered before the Albany Fourier Association, by one of its members.

When we consider the ills that surround us, on every side, and the want of confidence in one another, we must conclude that there is something radically wrong in society, there is a system of oppression existing, a system that unites power with wealth, and places the rich man in a position that leads him to forget that he is indebted to the very men whom he scorns to associate with for many of the blessings he enjoys. Now, Mr. President, association purposes bringing men up in order that this state of things may be done away with, in order that men may enjoy the blessings that the Creator has bestowed upon us with such a liberal hand, in perfect harmony with one another, and where men, and not clothes, will be looked at—and this reminds me of an anecdote. Two persons who had been for a long time intimate, and were much accustomed to be together, suddenly found themselves strangers—one had been unfortunate, and his clothes got very shabby, in consequence of which his companion would pass him without speaking, till in the course of a little time he chanced to raise a new coat, and meeting his friend a day or two afterwards he was astonished at the friendly manner in which he addressed him, but he happened to look at his coat—no, no, says he, I think we can do without shaking hands, you should have said, "how do you do Mr. Coat," I have experienced as much of your friendship as is necessary.

But, to resume, association will relieve many from the monotony of their employment. For instance, the shoe maker and tailor, whose occupations are so injurious to health, here they can find exercise and employment to invigorate themselves, and to cheer their minds, instead of oppressing them; and after the hours of business there are amusements for all, they can have an intellectual feast in the library, or enjoy the society of the ladies, and listen to the soothing influence of music. Though, sir, I do not suppose all this is to be accomplished in a month, or even a year, it will require both time and united effort to bring it about, but I have no fear for the result, I have no doubt we shall realize abundantly all that we are looking forward to. I rejoice exceedingly when I think of the situation of the aged, surrounded by their relatives and friends, and provided with all the comforts of life, what a consolation will it be to their children, who, had they remained in civ'n would in many instances have been obliged to send them to a poor house.

Association is equally beneficial to the rich. I think it calculated to make a great change in their feelings, to remove much of that false pride they are now the subjects of. They cannot do without the assistance of the laborer and mechanic; if they want their horse shod they cannot do it themselves, neither can they make a closet or a chair, yet they would not associate with any of these men, these nature's noblemen, for such they are: they will even carry this feeling into the presence of their Maker—let a poor man chance to go to a rich man's pew in church, his pretty daughters would turn up their noses and shuffle as far off of him as they could, and would be as much afraid of him as if he were an horned animal. This shows there is something seriously wrong, and though human nature is bad enough, I think much of this feeling arises from the errors, prejudices and false position of society. These are among the many things that are wrong, and which Association will be the means of abolishing; but, my friends, we shall shortly prove to the world that we are not talking merely, but we mean to be doing, and that right early. There are many pioneers ready to lay the axe to the root of the tree, and to go into with energy and determination, and we must be gratified to see how all appear to be interested. I think we can see by the friendly manner in which the advocates of Association meet together, a glimpse of our future happiness, an embryo of our permanent establishment. Then, as I said on a former occasion, let us be zealous in the great and good cause, let us endeavor to win men over to unite with us, and let us raise the standard of Fourier in such a manner that the enemies of truth and good feeling can never take down or destroy, let us go heart and hand, and we shall accomplish and carry out a system superior to any thing in existence among men, and which will eventually lead to liberty, peace, and happiness.

Mr. Lock, of Troy, will address the Society, on Monday, April 3d.

Power of Electricity.—A salad of mustard or watercress may be produced in a few minutes by the assistance of electricity.—The process is, to immerse the seed a few days previously in diluted oxymurated acid, then sow it, in a very light soil, letting it be covered with a metalic cover, and then bring it in contract with the electric machine. By the agents employed in this process, eggs, which require from nineteen to twenty days application of animal heat to hatch them, may be hatched in a few hours. Rain water, apparently free from any noxious animalcule, in an hour may be rendered full of inscets.

Hanging Gardens of Babylon.—These gardens were of a square form, each being 400 feet in the length; they were carried in the manner of large terraces one above another, till they rose as high as the walls of the city, the ascent being from terrace to terrace, by stairs ten feet wide. The whole pile was sustained by vast arches raised on the other arches, and strengthened by a wall surrounding it of twenty-two feet thick. On the top of these arches were laid large flat stones, sixteen feet long and four broad; these were lined with brick, closely cemented together with plaster of bitumen, and that covered with sheets of lead, upon which lay the mould of the garden, where there were large trees, shrubs and flowers, with various sorts of vegetables.

There were five of these gardens each containing about four English acres, and disposed in the form of an ampitheatre.

Steam Power.—It is on the rivers, and the boatman may repose on his oars, it is in highways, and begins to exert itself along the courses of land conveyance; it is at the bottom of the mines, a thousand feet below the earth's surface; it is in the mill, and in the workshops of the trades. It rows, it pumps, it excavates, it carries, it draws, it lifts, it hammers, it weaves, it prints.

Soap Made of Flint.—The manufacture of silex soap, which was put a stop to by the excise a year or two ago in England, has sprung up and is flourishing in Ireland.—There is an extensive manufactory at Cork, under the management of the patentees.

THE COMET.

BY O. W. HOLMES.

The Comet! he is on his way,
And singing as he flies:
The whizzing planets shrink before
The spectre of the skies.
Ah, well may regal orbs burn blue,
And satellites turn pale!
Ten million cubic miles of head!
Ten billion leagues of tail!

On, on, by whistling spheres of light
He flashes and he flames;
He turns not to the left or right,
He asks them not their names;
One spurn from his demoniac heel—
Away, away they fly,
Where darkness might be bottled up,
And sold for Tyrian dye

And what will happen to the land,
And happen to the sea,
If in the bearded monster's path
Our earth should chance to be?
For I hot and high the sea should boil,
Full red the forests gleam—
Methought I saw and heard it all
In a dyspeptic dream.

I saw a poet drop a scroll
Each moment in a tub;
I read upon the wraping back,
"The dream of Heelzebub;"
He could not see his verses burn,
Although his brain was fried:
And ever and anon he bent
To wet them as they dried.

I saw a tutor take his tube,
The comet's course to spy;
I heard a scream—the gathered rays
Had strewed the tutor's eye.
I saw a fort: the soldier's ran
About in goggles green;
Pop! cracked the guns—whiz! flew the balls;
Bang! went the magazine!

The Worcester locomotives did
Their trip in half an hour;
The Lowell cars ran forty miles
Before they checked their power.
Roll brimstone soon became a drug,
And loco-focos fell;
All asked for ice—but every where
Saltpetre was to sell.

The gas-light companies were mobbed,
The bakers all were shot;
The penny press began to talk
Of lynching doctor Nott;
And all above the warehouse steps
Were angry men in droves,
Crashing and splintering through the door,
To smash the patent stoves.

I saw a roasting pullet brood
Upon a baking egg:
I saw a cripple scorch his hands,
Extinguishing his leg;
I saw nine geese upon the wing,
Towards the frozen pole,
And every mother's gosling fell,
Crisped to a crackling coal.

I saw the ox that cropped the grass
Writhe in the blistering rays;
The herbage in his shrinking jaws
Was all in a fiery blaze.
I saw huge fishes, boiling to rags,
Bob through the babbling main,
I saw a whale spout streams of fire
From the oil can in his brain.

Strange sights! strange sounds! O ghastly dream!
Its memory haunts me still;
The steaming sea, the crimson glare
That wreathed each wooded hill!
Strange! if o'er thy slumbering couch
Such fearful visions sweep,
Spare, spare, oh! spare thine evening meal,
And sweet shall be thy sleep.

ECONOMICAL USES OF THE WILLOW.

(Continued.)

The stems, branches, shoots and twigs are used in modes almost innumerable, either split or not, according to circumstances. The straight stems of young trees, when split into two, make excellent styles for ladders, on account of their lightness. The longer shoots and branches are made into poles for fencing, hop-poles, props for vines, and other purposes; and when forked at one end, into "clothes-props." They are also much used for the handles of hay-rakes and other light agricultural implements; they are split, and made into hurdles, crates, and hampers; and, when interwoven with the smaller branches, into racks or cradles for the hay and straw given to cattle in the fields or feeding-yards. The shoots of some of the more vigorous kinds of willow, when cut down to the ground, produce in two years rods which admit of being split in two for hoops or barrels. In the neighborhood of London the market-gardeners use the smaller shoots of some species for tying up brocoli, colewort, and other vegetables sent to market in bundles; while, the smaller shoots of willows are used for tying up standard trees and shrubs into shape, for making skeleton frames on which to train plants in pots, and for tying bundles and packages. The smaller rods or shoots, with or without the bark on, are manufactured into various kinds of light and ornamented articles. At Caen in France, hats are manufactured from strips or shavings of the wood of the white willow; branches of two or three years' growth are taken and cut up into thin slices, with an instrument called a "shave," and afterwards divided into ribbands by a steel comb with teeth. Similar willow hats were formerly manufactured in England. Sheets of woven materiel, called 'willow,' are made at the present day; they consist of a fabric woven with fine strips of willow-wood, subsequently stiffened; they are in common use for the frame work of bonnets, and when covered with felt or silk shag, for light cheap "gossamer" or summer hats. These sheets of willow are said to be chiefly manufactured in Spitalfields, where one set of persons cut the willow into thin strips, and others weave these strips into sheets.

The downy substance which envelops the seeds of the willow is used by some kinds of birds to line their nests, and by man occasionally as a substitute for cotton in stuffing mattresses, chair-cushions, and for other similar purposes. In many parts of Germany this substance is collected for making wadding for lining ladies' winter dresses, and a coarse paper may be formed of it.

The willow plant in a whole state is in many respects ornamental, and in some useful. Almost all the species being aquatic, and of rapid and vigorous growth, they are peculiarly fitted for planting on the banks of rivers and streams, for restraining their encroachments and retaining the soil in its place. The shrubby species of the willow make hedges, both in dry and in moist soil; but in the latter, such hedges are of most value on account of the use of their annual shoots in basket-making. As respects ornament, the 'weeping-willow, is perhaps the most graceful of the species. It is a native of the Levant; but it thrives very well in other countries, if the situation be not too cold, and if it be near water. It runs to a considerable height, and no tree can be more graceful on the margin of a lake or stream. It has been said that the first weeping-willow was planted in England by Alexander Pope, and that the motive for so doing was the following:—Pope, having received a present of figs from Turkey, observed a twig of the basket in which they were packed putting out a shoot; he planted this twig in his garden, and it in time became a fine tree. From this stock all the weeping-willows in England are reputed to have sprung; but the original tree itself was cut down a few years ago.

When all other useful purposes have been served, the willow serves as a substitute for coal. The loppings, branches, and old trunks make a most agreeable fuel, producing when dry a clear fire with little smoke. It is used extensively in the manufacture of charcoal; and it has been found superior to most other woods in producing charcoal for gunpowder. In the time of Evelyn, willow appears, from a remark made in his '*Sylva*,' to have been the principal wood employed in the manufacture of charcoal, both for smelting iron and for making gunpowder. Willow-wood charcoal is highly esteemed by painters as a material for crayons.

Perhaps the most important application of the willow is one to which we have yet scarcely alluded, viz. the manufacture of baskets. This will occupy our attention in a future paper, and we will therefore not further notice it here, but will conclude with the following statement by Mr. Loulon of the distribution of the culture in England: "The principal plantations of willows for basket-making in every country are made along the banks of rivers and streams; and in England those on the Thames and Cam are the most celebrated. In both these rivers, and in some others, small islands are frequently planted entirely with willows, and are called 'oiser holts.'"

PETRIFIED BUFFALO.—This extraordinary curiosity was discoved about two years since by some trappers belonging to Captain Bent's company, laying on the side of one of the beaver dams of the Rio Grande of the North, (a stream empyting itself into the Gulf of California,) whose waters, it is said, possess the petrifying qualities to an eminent degree, its shores abounding in specimens of various animals and vegetable productions in a petrified state. The petrified Buffalo is described by those who have seen it, to be as perfect in its petrifaction as when living, with the exception of a hole in one of the sides, about four inches in diameter, around which the hair has been worn off, probably by the friction of the water, in which it must have lain for ages past, to have produced such a phenomenon. The hair on the bump and shoulders, neck, forehead, and tail, though concreted into almost a smooth surface, may be easily discerned. The horns eyes, nostrils, mouth, and legs are as perfect in their stone, as in their pristine state.

The country in which this rare specimen was found, is inhabited by the Euteaux, a roving tribe of savages, who subsist a great portion of their lives, on insects, snakes, toads, roots, &c. The tribe being particularly hostile to the whites, renders the acquisition of this curiosity an undertaking not a little hazardous, notwithstanding this, and many other difficulties to be surmounted, such as distance, expense, &c., Captain Bent contemplates procuring and bringing it to the United States during the ensuing autumn. The curious many therefore anticipate an extraordinary treat in the course of the winter.

SINGULAR LOCK.—A novelty has recently been added to the already numerous and ingenious inventions of affording secuity to property, and which will shortly be introduced to the public. This invention presents the singularity of a lock without any key-hole, and it is said it can be made applicable to all the usual purposes, even including distillers' cocks, tavern taps, &c. The key, or means of opening it is stated, can be made in every variety of form—as a ring to wear on the finger, as a seal, a pencil-case, or as an addition to a whip or stick. The lock itself can be supplied at a much lower price than any other lock, and possesses the important advantage that it is impervious to dust or wet, and cannot be picked.

INGENUITY OF A BLACK BOY.—In the Penn. Inquirer, we find a statement credited to the Cecil, Md. Gazette, that a black boy in the vicinity of Cecil, has made an entire minature steamboat, with cabins, berths, deck and upper deck, carved stern and figure head, forward and after cabins, with windows, wheel-houses and paddles, steerage house, barber's shop, capstan, cable-box, settees, bell, pistons, boilers, levers, chimnies, and all other appliances complete. The machinery is so perfect that it may be put in motion by a child.

SOUND MADE VISIBLE.—An English paper gives the following notice of an 'important discovery,' which is, indeed, no less than a plan of rendering the vibrations of sound permanently visible!

"A most ingenious and valuable discovery has just been made by Mr. Southworth, of Manchester, by means of which an individual although unacquainted with the art of writing, is enabled to take down the speech even of the most rapid speaker, and what is yet more surprising, in such a way as to indicate the peculiar emphasis with which it may be delivered. As the inventor has not yet secured a patent, all that we are at present to state is, that it bears some analogy to photogenic drawing. It is well kenown in the latter case that, when a substance properly prepared is presented to objects illuminated by the rays of the sun, it receives a distinct and faithful impression of them, which is afterwards rendered permanent by suitable chemical agents. So also the present discovery consists of a piece of mechanism as susceptible of the impression of sounds as the typanum of the ear, which impression remains permanent, and is as perfectly legible as the clearest typography."

ALBANY, SATURDAY, APRIL 1, 1843.

THE STATE PRISONS.

The principal objection to the adoption of Mr. Cook's proposition, seems to be in the *supposed* expense attending it. We say *supposed* expense, because we are sure that Mr. C. has made an over-estimate, and that the expenditure need not be any thing near as great as there contemplated. It is true that most of the estimates upon which the legislature has been called to act in past years have proved far too small, but in all legislation in regard to the prisons the narrowest estimates have never been exceeded. Mines can be purchased at a less price than the report states—indeed, a great competition will doubtless exist in the proposals to the persons authorized to make the purchase, and the necessity of the expensive water power, should the experiment of employing the escape heat from the forges succeed—and that it will is now placed beyond a doubt—this expense will be saved to the state. The trial of the experiment, if it can now be called such, can cost no more than $1000 at the utmost, and then, should it fail, the engine is still of its first value, so that the loss could not exceed $200 at the utmost. But the "experiment" has been tried with *perfect* success by a firm in this city, and has been in operation for a length of time, although the fact was not known to Mr. C. when he made his report. So this matter is disposed of in short order.

The other objections, as to the anticipated scarcity of charcoal and the cheapness of anthracite iron, we noticed in our last. The simple fact that the forests of the north part of our state, and their "second crops," would supply coal for 500 forges for 500 years, is evident to any individual who knows aught of the matter—and the well known fact that charcoal iron is *absolutely* indispensable for hoop, wire, chain and sheet iron, steel, tools, gun barrels, carriage tires, &c. &c., is answer conclusive to the second objection.

Then what objection, it may be asked, can be urged against Mr. Cook's plan? We answer, unhesitatingly, *not one* that is valid. What, then, continues the inquirer, is the amount of the remonstrances which have come, or *purport* to have come, from the northern portions of the state? To sum up briefly, we may answer that they are nothing more than the whinings of men who, before Mr. Cook's report was made, were exceedingly anxious that the state should relieve the mechanics, and (disinterested men!) openly avowed their belief in the practicability and propriety, ay more, *urged* the plan of employing the convicts in the mines, but who *now*, forsooth, *because their mines* were *not* recommended by the commissioner, are hostile to the project. This is the whole amount of the matter, and this the cause of their present opposition.

But let us examine the matter farther. The remonstrance, coming, so the petitioners, some 50 or 60 in number, modestly set forth, from the "inhabitants of northern New York," says, almost at its commencement, "that the proposed plan of employing the convicts in the manufacture of iron would open a large drain upon the finances of the state, and render necessary an increase of taxation, which we are but poorly able to bear; and, in our judgment, afford no remedy for the evil it is designed to cure." This is very strong language indeed, but let us compare the language used by Mr. C. D. Barton in a letter to Gov. Seward, dated Keesville, 12th July, 1841.

DEAR SIR.—Knowing that a determination exists by many citzens of this State to change the employment of convicts in the prison at Auburn; I suggest the propriety of putting the prisoners into the mines of Clinton or Essex counties. A prison for the experiment may be made very cheap at or near the iron mines, and the men would produce the ore at a reduced price in consequence of cheap labor.

I should think I could employ 100 prisoners or miners, and could pay 50 cents per day each with the present price of iron, which is very low.

Should the general government increase the tariff upon iron to that of 1839, over five hundred men might be constantly employed, after some improvements should be made in the manner of getting out ore, which can be readily done; and the greater the demand for ore, the greater the demand for mechanics' services, and a consequent increase of wages.

Iron mines can be rented or bought by the State, or employment given to the prisoners by individuals now engaged in said mines, for a term of years.

I am, very respectfully,
Your ob't serv't.
C. D. BARTON.

Fifty cents per day, Mr. Barton, it seemed could pay for convict labor, and that before the passage of the tariff. Does Mr. Barton pretend to say that the tariff has thrown down the price of iron? And yet Mr. Barton's name appears in this transparent "remonstrance!" How very consistent is all this! They have had "*convincing* experience," it seems that iron making is a money losing business, but yet, disinterested souls, they fear the state will injure them and herself by attempting it, and therefore *remonstrate!*

Again, according to one estimate, they are loosing 5 per cent, and by another, 20 per cent., or about $12 per ton on every ton they sell. How patriotic are the iron manufacturers of "Northern New York!" For the benefit of the good people of this state they still go on manufacturing iron for public use and furnishing it at 11 and 12 dollars per ton less than cost! Can such kindness ever be appreciated? And would it not be wrong, *wicked* for the state to *enter* into competition with these worthy and estimable citizens? Too bad—too bad! And such a profitable business!

But they say in one place to make out their position, that iron brings only 40 dollars in the market and costs $48. This is a falsehood or else the prices current and their own testimonials are not true. The highest estimates Mr. Cook received from any of the iron manufacturers of northern New York, these remonstrancers among the number, made the cost of iron per ton only $42, and disinterested iron manufacturers within *ten miles* of this city say that this estimate is $10 too high. Besides this, iron of the kind to which they refer is now quoted at from 85 to $95, *and is now selling at from* $100 to 135 per ton in this city and Troy. Allowing their own estimate then, instead of a *loss* of 20 per cent there is in fact a gain of from 30 to 50 per cent.

The remonstrance is a tissue of misrepresentation and misstatement throughout. Its whole design is to defeat a measure of importance to the mechanics and the state, for the sole reason that certain mines, mines eminently unfitted for the purposes designed, were not recommended by the commissioner. None were more loud in their protestations of approval than these very men, but now, when they "begin to see how the wind blows," come out with a protest as false in its statements as it is malevolent in its design, and by every means in their power endeavor to defeat the whole measure.

Another remarkable fact remains to be noticed, a coincidence scarcely less wonderful than the sentiment and phraseology that exist between sundry articles that have appeared in the public prints in relation to *that* "granite quarry" of Ward B. Howard, M. T. H., L. L., (member third house and lobby lounger.) This is the fact, that every remonstrance, with *one* exception, that has been presented to the legislature against the plan proposed by Mr. Cook, is in the same hand writing, and that hand *believed*, and with good reason, to be (reader, would you believe it?) Mr. C. D. Barton's, author of the letter to Gov. Seward, given above. Comment is unnecessary.

IRON FURNACES IN GREAT BRITAIN.

We find the following statistics of the manufacture of Iron in England and Scotland in the 16th vol. of Silliman's Journal, p. 395; by which it appears that the number of high furnaces in 1740 was but 59, and that the number had increased up to the year 1827 at the following remarkable rate:

1740,	59	furnaces,	producing	17,000 tons.
1788,	85	"	"	68,000 "
1769,	121	"	"	125,000 "
1806,		"	"	250,000 "
1820,		"	"	400,000 "
1827,	284	"	"	690,000 "

Of the two hundred and eighty-four furnaces in operation in 1827, ninety-five were in Staffordshire and ninety in South Wales. Notwithstanding the increase in the number of furnaces in the United States, they have not been able to keep pace with the increasing demand for iron, and vast quantities of it are annually imported from Europe. If the attempt recently made to manufacture good wrought iron with anthracite coal should succeed, as it is hoped and believed it may, the process of its manufacture will be so greatly facilitated as to reduce the price of American iron of the common kinds, and increase the number of furnaces, wherever pit coal is accessible. It must however be borne in mind that the mines which produce the finest iron, must, from the remoteness of their locality from the coal region, continue the use of charcoal; and as the demand for it will continue to increase, the prices will not be affected by those of the anthracite made iron, which can never be substituted for it in the finer manufactures.

REPORT OF THE COMMISSIONER OF PATENTS FOR 1842.

Having given in a previous No. a synopsis of the report of the Com. of patents for the year 1841, we now proceed to that for 1842, which is more full and complete. This document has been thought worthy of re-publication by a publishing house in New York, and is for sale at the Tribune office in

that city, and at most of the news rooms in the cities and large villages. It will be found worth possessing by those who take an interest in agricultural and mechanical statistics.

The number of patents issued in the year 1842 was 517; the number which expired 352. The number of *applications* for patents during the year was 761. The whole number of patents issued by the United States prior to Jan. 1843, was 12,992.

The patent office has in a great measure recovered from its loss in 1836, by the conflagation of the building, with all its contents, and it is believed that the new models are better than those destroyed. The loss sustained by the library is not yet fully repaired.

From the tabular estimate of the crops of 1842, we gather the following aggregate amount of the different crops for the whole country.

No. bushels of	Wheat	102,317,340
"	Barley	3,871,622
"	Oats	150,883,617
"	Rye	22,762,952
"	Buckwheat	9,483,409
"	Indian Corn	441,829,246
"	Potatoes	135,883,381
No. tons of	Hay	14,053,355
"	Flax and Hemp	158,570
No. pounds of	Tobacco	194,694,891
"	Cotton	683,333,231
"	Rice	94,007,484
"	Silk Cocoons	244,124
"	Sugar	142,445,199
No. gallons	Wine	130,748

Sugar.—Of the article of sugar, Louisiana produced over ninety eight millions pounds from the cane; New York over thirteen millions from the maple; Vermont over six million do; Ohio eight millions do. The prospect of obtaining sugar from the cornstalk is full of encouragement.

Wheat.—The amount of wheat raised in Ohio was twenty-five millions bushels; more than double the crop of any other state.

Barley.—New York produced two-thirds of the whole crop af the country.

Oats.—New York produced 25 millions, Pennsylvania over 24 millions bushels.

Buckwheat.—New York and Pennsylvania each about 3 millions bushels.

Rye.—Pennsylvania over 8 millions, New York over 3 millions, and New Jersey over 2 millions bushels.

Indian Corn.—The largest amount was produced in Tennessee, nearly 56 millions bushels.

Potatoes.—New York 37 millions, Pennsylvania 13 millions, Maine 12¼ millions, Vermont 11 millions bushels.

Hay.—New York nearly 4 millions tons, Pennsylvania 2¼ millions, and Ohio and Indiana each over 1 million tons.

Flax and Hemp.—The greatest product was in New Hampshire, Virginia and Missouri; about 29 thousand tons in each.

Tobacco.—Virginia produced over 59¼ millions pounds, Kentucky 45 millions, Tennessee 28 millions.

Cotton.—Georgia, Missipippi and Alabama averged about 150 millions pounds each.

Rice.—South Carolina 70¼ millions pounds, Georgia 14 millions.

Silk Cocoons.—Of the 244 thousand pounds raised in the whole country, Connecticut produced 117 thousand.

The entire aggregate crop for 1842 thus appears to be very great, says the commissioner; although lessened in some states, the amount of the whole is much increased. The estimates might have been larger, but the aim has been to *fall short* rather than *exceed* the truth. Several other products not alluded to above are embraced in the report. We can but give the briefest abstract here, and would refer to the report itself for full and interesting particulars.

OUT AT LAST.

The memorial of the State Mechanic Association in relation to rooms in the Old State Hall for a Mechanical Museum, which the committee presented to the governor on the 1st Feb, and got his assurance that it should be submitted to the legislature immediately, has finally made its appearance, in the incredible short space of two months!

☞ The editor of the *New York Tribune* is "not at all hostile to a trial of the mining experiment." Indeed! But is he not hostile to the publication of articles in his paper in favor of *that* "mining experiment' which the mechanics have chosen to make a trial of; and is he not at the service of its opposers, to publish what they may offer, *without comment?* "Straws"—and so forth.

Lien Law.—The Mechanics of New York city held a meeting at National Hall on Thursday evening of last week for the purpose of deliberating upon an application to the Legislature for the passage of a better lien law than the one now in force, to secure their pay to builders. The Tribune characterizes the proceedings of the meeting as "moderate in tone, yet firm in purpose," which it trusts cannot fail of being effective. "As the mechanics of our city ask no more than has already been accorded to their brethren in a majority of the states, we cannot doubt that their prayer will be granted."

INTELLIGENCE.

Steam Plough.—Experiments in plowing by steam have been made in England, but without success, as so great a power is required to draw the plow that the wheels slip upon the ground. Mr. Larkin of Franklin, La., has lately exhibited a model of a steam plough, and has taken the difficulty above named into consideration, says that he can overcome it.

Antiquities.—One hundred and eighty tons of the fine old Lycian marbles, saved from the ruins of Xanthus, have reached England, and will be deposited in the British Museum.

A Belgian journal states that the academy of medicine of Brussels has decided on appointing a commission to examine into the modern experiments in animal magnetism, and make a report on the subject.

Street Sweeper.—Part of Manchester, England, is kept clean by a street-sweeping machine. This machine, by means of the rotary motion of locomotive wheels, raises the loose soil from the surface of the ground, and deposits it in a vehicle. Behind the cart a series of brooms is fixed which, as the wheels revolve, sweep the surface of the street, and force the dirt up an inclined plane, and then over into the body of the cart. The cart is drawn by horse power, and, as now in operation, will fill itself in six minutes—leaving behind it a clear track. This is termed in the patent "Whitworth's patent self-loading cart."

Morse's Electro-Magnetic Telegraph.—Congress has appropriated the sum of thirty thousand dollars to be applied to the construction of a line of telegraphs under the superintendence of Prof. Morse, of such length and between such points as shall fully test its practability. The money is to be expended under the direction of the secretary of the treasury, who is authorized to pay Prof. Morse, and the persons employed under him, a fair compensation for their survices.

Mechanics.—The times are bad for working men. The number of buildings erecting are very limited. A number of enterprising men with famalies are associating, in societies of ten to twenty families. They intend to purchase lands in the middle counties of Delaware, and settle. This is a good move. Lands in the middle counties are cheap and the country wealthy. The very act of settling ten or fifteen families in the same vicinity, doubles the value of their land. This is the best course to pursue for hundreds now out of employ in this city.—*N. Y. Amer.*

A Sarcophagus.—on Saturday last, a large sarcophagus, brought from Palestine in the frigate Constitution, by Commodore Elliott, arrived at Philadelphia from Norfolk, on board of a small schooner. It is an oblong-suqare block of marble, seven feet long, about two feet and a half wide, and weighs seven tons. The top, or lid, rises from the edge to the centre, like the roof of a building, and at the corners there is a kind of pointed parapet. The carving on the sarcophagus is of high order. Each corner is ornamented with a ram's head. At the sides are two bulls' heads. Various other devices cover the surface, and a wreath tastefully carved depends from, and unites the horns of the animals. The carving is in bas relief, and will give an idea of the perfection to which the ancients carried the arts, particularly that of sculpture. This antique relic was dug from the ground where it had been embedded to the depth of twenty feet, as is supposed, for the last eighteen centuries. Commodore Elliott has presented it to the Girard College.

A comet that appeared about thirty years ago, had a tail that measured one hundred and fifty millons of miles in length, and it will be three thousand years in making one revolution.

The Boston Post cautions laboring people from eating too much "*roast beef*," about these days.

Progress of Manufactures.—The Massachusetts manufactures have so improved their machinery and their skill, and the prices of wool are so moderate, that they can now make excellent *mousseline de laine*—that is, woolen muslin—at a cost of only 8 cents per yard. It is also said that the Lowell mills are making fine cloths and cassimeres, equal to the imported and at a cost as favorable. Important improvements are steadily making in the above departments which enable our manufacturers to compete successfully with those of Europe.—*Alb. Daily Adv.*

A Live Frog in a Billet of Wood.—The New York Plebeian says:—"A subscriber has shown us a wonderful affair indeed. It was no less than a stick of oak, about six inches in diameter, apparently of about ten years growth, which he had split in twain in the morning. Out of the centre of the stick fell a toad, alive and kicking: and the print of his body, as it was embedded in the oak, was full and apparent. How this animal contrived to sustain itself is a question which we may well leave to the profoundly scientific."

At Northampton, Mass., they manufacture all kinds of paper from mulberry leaves.

The factory at Thomasville, half a mile west of the village of Brattleboro, Vt., occupied by Messrs. Ripley & Fowler as a woollen factory, and E. F. Stearns, rule maker, was entirely consumed by fire on Saturday night, 18th ult. Nothing saved. Mr. Stearns insured $900; the factory no insurance.

The *New Orleans Bee* says that about 1000 persons will rendezvous at Fort Leavenworth on the first of May, for the purpose of emigrating to the Oregon territory.

A mine of Black Oxide of Manganese has been discovered near Jackson, Mississippi. The ore yields 85 per cent of the mineral.

The property of the Brunswick Manufacturing Co., including the mills, water power, and dwelling houses, which originally cost $190,000 was sold at auction, by Whitwell, Seaver & Co. for $43,400; loss to some persons $156,000.

A celebrated engineer examined at a trial where both the judge and counsel tried in vain to browbeat him, made use in his evidence of the expression, "*the creative power of a mechanic;*" when the judge rather tartly asked him what he meant. "Why, my lord," said the engineer, "I mean that power which enables a man to *convert a goat's tail into a judge's wig.*

An extraordinary Bar of Iron.—The largest bar of iron ever made was rolled at the Cyfarthfa Ironworks, near Merthyr Tidvil, in Wales, and is, we are informed, for a house in Holland. It is a cable bolt, 25 feet in length and 6 inches in diameter and weighs about 2,400 pounds. The pile from which it was rolled was 7 feet long by 12 inches square, and weighed upwards of 2,600 pounds. The pile was taken from the heating furnace and put at once into the rolls, just in the same manner as they roll bars of an ordinary size. It was rolled under the able superintendence of Mr. Robt. Crawshaw.

Mr. Allen, of Springfield, has made a bass viol eight feet long.—*Boston Post.*

We hope they are not going to use this tremendous instrument in church on Sundays. It would be nothing less than a *bass viol*-ation of the Sabbath.—*N. Y. Aurora.*

The Great Iron Steamer.—The great iron steamer, the largest vessel ever built, intended to ply between England and New York, is now complete, except her decorative part, and she will be enabled to go to sea, it is believed, in the spring of the present year. She will be capable of accommodating 300 first class passengers in fore and after cabins, and of carrying from 1500 tons of merchandize and upwards.

The following are her dimensions:

Length,	320	feet.
Beam,	51	"
Depth (total) from inside of the upper deck to the keel,	31	"
Draught of water when loaded,	16	"
Tonnage, (old measurement)	3500	tons.
Displacement of water when drawing 16 feet,	300	"

Engines, four, of 300 horse power each.

She will be propelled by Smith's patent Archimedean screw, of the proper power and size required by the four engines, of 1200 horse power, which are to work it. These engines are splendid specimens of mechanism, as complete as they can be manufactured, and have been placed in the vessel at right angles, for the purpose of their working to suit her build, and for the better distribution of their dead weight. There are six boilers, with four feeders to each.

The Pittsburg American states that contracts for two more iron steam ships have been made. They are to be built in that city, and are intended as revenue cutters for the lake service.

WASHINGTON TEMPERANCE SOCIETY.

In submitting the following report of the condition and standing of the Albany City Washington Temperance Society, it will become necessary to give the citizens of Albany a short history of its rise and progress for one year, ending with this report. The society was originally started by a few noble and philanthropic individuals, for the purpose of rescuing the inebriate from the powerful chain with which he had been bound through the instigation of the "Tyrant Alcohol," and bring him back again to the bosom of his family and within the pale of society, both of which grand objects have in a great measure been realized. And the benign effects of which can be duly seen in the happy homes and joyous faces of not a few in our city, whose homes have been rendered a place of joy, peace and happiness, where before dwelt strife, misery and contention. It has had a great influence in bringing the inebriate (during this great and glorious revival now going on in our city) within the pale of the church, where hundreds may be seen daily in meek and holy supplication before the throne of the great God of the universe. And to the ministers generally, we owe much for their noble co-operation in this great and glorious cause of temperance.

Through the instrumentality of this society quite a number of inebriates who had no where to lay their heads, have been provided (after having signed the "Pledge") with board and lodgings, and decently clothed, after which places have been provided for them whereby they could earn an honest livelihood. And we have been signally blessed that but few have gone to their old habits and associates, and even those not yet irreclaimable.

The society for the past winter have fitted up a reading room in their hall, where papers from all parts of the Union have been kindly furnished by the different presses in our city, (for which we return our thanks) and keep open day and evening for the purpose of instruction and as a proper place of general resort during the winter evenings. We have in a great measure been assisted in keeping our rooms open through the liberality of our coal dealers and oil merchants, for their liberal donations in their respective branches of business, for all of which we tender to them, individually and collectively, our warm and sincere thanks.

TREASURER'S REPORT.

Washington Temp. Society in acc't with J. C. WARD, treasurer.

Cr.		*Dr.*	
Sundry Concerts,	$192 89	Paid Lecturers,	$33 53
Constitutional members,	199 31	Board and lodging,	53 41
Donations, subscriptions, &c. &c.,	127 23	Lamps, lights, &c.	9 97
Collections in room,	36 59	Books and stationary,	4 60
Rent of hall,	25 50	Printing,	75 50
		Fixtures in room,	55 73
		Music, (24th June,)	60 19
		Rent of hall,	203 00
	$572 53		$565 68
		Leaving a balance in the treasury of	$6 85

The liabilities of the society up to the 1st of May next, is $211; of which amount $145 is to be paid on account of rent, $60 for printing, and $6 for two sets of shade lamps. This includes the full amount of the outstanding debts of the society. Since the formation of the society there have been enrolled 2070 names to the "Pledge" of Total Abstinence. All of which is respectfully submitted. JNO. C. WARD, treasurer.

BUSINESS NOTICES.

☞ All letters and communications intended for this paper should be *post paid to secure attention.*

Terms for vol. 2.—To clubs of 20 or more, having the paper sent in one package, $1 each per annum, in advance.

To clubs of not less than 5, sent as above, $1.25 each, in advance.

Single subscribers $1.50, in advance.

Members of the state and county or town associations, subscribing through the secretary, are entitled to the paper at $1 per annum, in advance.

All papers discontinued at the expiration of the time paid for, unless previously renewed.

BINDING.—Subscribers wanting their volumes bound, can have them done in any style and at reasonable prices, by leaving them at this office.

Several volumes of the Mechanic left to be bound some time since are now ready for delivery. The owners are requested to call for them.

To Printers.—FOR SALE CHEAP, a Fount of second hand Pica, about 200 lbs., in good order. Also a quantity of Leads, of different lengths, as good as new. J. MUNSELL.

Wood Engraving and Designing.

E. FORBES is prepared to attend to all business of the above description at the *Sculpture Rooms* 17 Stanwix Hall.

BOOK BINDING.—HARVEY H. CORNING, sign of the golden ledger, 82 State street, Albany, carries on the above business in all its various branches, viz: PLAIN, EXTRA and SUPER EXTRA—has a first rate RULING MACHINE and other necessary implements for manufacturing BLANK BOOKS of every description, on the most reasonable terms, of the best materials and workmanship.

N. B. An assortment kept on hand. 27.

TO HOUSE BUILDERS.—FOR SALE—an IRON SCREW AND BOX, suitable to be used in removing or raising buildings. Inquire at Blackall's, corner of Hamilton and William streets March 18.

PRINTING,

IN

ALL ITS DIFFERENT BRANCHES,

SUCH AS

BOOKS, PAMPHLETS, CARDS, CIRCULARS, BILLS, &C.,

Neatly and Expeditiously Executed at the Lowest Prices,

BY

J. MUNSELL,

At the Office of the MECHANIC, No. 58 State street,

ALBANY.

WOOD ENGRAVING.

N. ORR, (late pupil of J. H. Hall,) is now prepared to execute any orders in the above business, which he may be favored with, and respectfully solicits a share of patronage.

Room No. 6, 3d floor, Exchange.

Having made arrangements with Mr. N. Orr, to do my wood engraving, I recommend him to the public as one who understands his business and will doubtless give satisfaction.

JOHN H. HALL.

Albany, Feb. 1st, 1843.

LEATHER, OIL, AND FINDING STORE,

No. 18 Hudson Street.

J. HOCHSTRASSER,

Will continue the above business at his old stand, and having made arrangements with manufacturers of Leather and Morocco in the cities of NEW-YORK, PHILADELPHIA, and ALBANY, and having in his employ first rate workmen, he is enabled to supply his customers with all the articles in his line on the most reasonable terms, at *Wholesale* or *Retail*, the following are included in his assortment: Oak and Hemlock Harness, Bridle, Collar, Horse Trunk, Valise and Skirting Leather; Hog Skins, Philadelphia Russet Bridle, do. Facing Skins, do. Lining Hides, do. Top Hides, Patent Leather, Coach Roans, Neats Foot and Liver Oil, Currier's Tools, Oak Sole Leather, Hemlock do., Wax and Grain Upper Leather, do. Calf Skins, Keen's Philadelphia do., Seal and Kip Skins, Splits and Welt Leather, Cordovan, Red, Green, White and Yellow Linings, Goat and Sheep Binding Skins, White Alum Dressed Linings, Dressed and Undressed Morocco, Colored Goat and Sheep Skins, English Shoe Thread of all numbers, India Rubber and Patent Cloth, Apron Skins, Stock Binding, &c.

N. B. An assortment of SHOE MAKER'S FINDINGS will be kept on hand.

Also, *Roller Skins, Engine Hose, Band, Picker, String,* and *Patent Leather,* on hand and made to order. *Albany,* 1843.

To Cabinet-Makers and Upholsterers.

DANIEL FRY, No. 40 State street, *Importer of Cutlery and Hardware,* keeps constantly on hand a good assortment of HAIR SEATING and CURLED HAIR, together with a complete assortment of *Cabinet Makers' Hardware,* which is offered for sale low for cash or approved credit.

FIRE ENGINES!!

THE subscribers are manufacturing at Waterford, on an extensive scale, Fire Engines of various patterns, to suit purchasers, and they do not hesitate to recommend their Engines as decidedly superior to any now in use.

They manufacture the common Piston Engine, to work with chains or connecting rods, which they have improved in the construction of the brakes and the application of the power, so as to give them a decided advantage over those now in use. They also manufacture Rogers' Patent Balance Fire Engine, which has always been proved to be of *superior* power to all others.

Prices at the Factory, in complete order for use:

Those designed					
For 40 men,	largest	Philadelphia	size or	11 inch chambers,	$850
" 28 "	"	Albany	"	8 1-4 "	700
" 22 "	"	Common	"	7 "	600
" 16 "	"	N. York city	"	6 1-2 "	500
" 12 "	"	Small		5 1-2 "	450

These prices are one hundred dollars below what engines have formerly been sold for, but they are reduced to suit the times.

The above prices can be reduced $50, by dispensing with the tower and goose neck and passing the water through the forward end of the machine. The *utility* of such an engine is fully equal to any other form, but its appearance is not quite so good. They also manufacture Factory Engines and Forcing Pumps of all sizes; Suction and Leading Hose to order, both rivetted and sewed, of the best quality.

They have been in the business 8 years, and might furnish many testimonials of good workmanship, &c., but as purchasers are supposed to prefer judging for themselves, the subscribers will furnish an engine where desired, and if on trial it is not fully equal in *all* respects to the *best* engines now in use, they will take it away without charge. Having an unlimited water power situated at the head of sloop navigation on the Hudson river, and near the junction of the Champlain and Erie canal, with a rail road connecting east with Boston and west with Buffalo, our facilities and arrangements for manufacturing are such that orders can be filled at any season of the year, and with the greatest promptness and despatch at the lowest rates.

L. BUTTON & Co.,
Waterford, Saratoga Co., N.Y.

MISCELLANY.

KATY DID.

Some years ago beneath a vine,
Whose tendrils soft bright roses hid,
I sighed, "dear girl, will you be mine?"
She said, "yes love!"—so Katy did.

I clasped her to my panting breast,
Nor was the lover's ardor chid,
She seemed to love to be caressed,
And so returned it—Katy did!

A blush suffused her peach-bloom cheek,
A tear was started to her lid,
Her heart seemed all too full to speak,
She looked a VENUS—Katy did!

Two years were passed in foreign land,
In search of wealth as I was bid,
When I returned to claim her hand—
She proved a jilt—so Katy did!

LIGHT READING.—By light reading is generally understood, that kind of reading which calls for little mental effort, and the effect of which is a pleasant excitement of the imagination. Novels and the light tales which abound in modern periodicals constitute the literature of a large number who look no further than to the gratification of the moment, and are reluctant to submit to the labor of thinking. The effect of such habits is to dissipate the mind and qualify it for no higher effort than that to which it is thus accustomed. No information is obtained. no just sentiments formed, no stores of knowledge laid up for the practical uses of life. Fictitious sympathy may be created, unreal scenes of life familiarized, and the mind encouraged to entertain dreams of fancy which never can be realized. But the mental faculties are not only weakened for want of stronger food, but essentially vitiated. Such reading, therefore, cannot be too strongly condemned, as both worthless and pernicious.

CAVERN IN CORSICA.—A discovery has been recently made at Bastia, which will add another to the picturesque attractions of Corsica. This is a grotto of stalactites. "It would be difficult," says the writer, "to find anywhere else, in a space so small (though the grotto is nearly seventy-five metres in length, by eight to ten in width), points of view more numerous, or forms more varied. Pilasters, columns, great and small, capitals, statues, rich draperies of matchless whiteness and transparency, stretch away, presenting, at every turn and winding, fresh combinations and new perspectives." It was by accident that this grotto was discovered; it is in the neighborhood of a magnificent cascade.

TOO GOOD TO BE LOST.—While a Bangor auctioneer was driving on with a large auction sale a few days since, and became quite animated with the importance of the sale and the large company around him, and was putting in the licks with considerable unction, he attracted the attention of an elderly woman in a neighboring store.

"Robert," said she, speaking to the clerk, "what is that man about over there?"

"Oh, he is preaching."

"Preaching! but what persuasion is he that he preaches in the street?"

"He is one of the Mormons."

"A Mormon!" said the old lady, lifting her hands in surprise; "do tell me, has he many followers?"

"He gets a great many hearers and preaches often," said Bob, by this time about as full as an egg.

"Well I've heard tell of these Mormons, but I never thought I should hear one preach; but then, he does seem to feel his subject, and I have no doubt believes his doctrine from the bottom of his heart?"

Bob had to go up stairs.—*Bangor Whig.*

A BANKRUPT.—A young man applied for the benefit of the bankrupt act, and upon being asked how much he owed, he said he reckoned about $500,000, as he saw they charged a man $10 for kissing a married woman in Ohio, and if the price was as high here for kissing girls, he must be in debt at least half a million.

Almanac for April.

First Qr. 7th day, 6h. 20m. aft.
Full moon 14th day, 9h. 45m. morn.
Last Qr. 21st day, 7h. 42m. morn.
New moon 29th d. 11h. 38m. morn.

D's Mo	D's Wk	Sun rise.	Sun sets.	Len. days.	Equa. time.	Moon r. & s.	Moon south.	
1	Sat	5 43	6 17	12 34	*add.*	*sets.*	1 4	♈
2	*A*	5 41	6 19	12 38	3 35	9 22	1 50	♉
3	Mo	5 40	6 20	12 40	3 17	10 26	2 40	
4	Tu	5 38	6 22	12 44	2 59	11 24	3 31	
5	We	5 37	6 23	12 46	2 41	*morn.*	4 24	♊
6	Th	5 36	6 24	12 48	2 24	0 15	5 16	
7	Fri	5 34	6 26	12 52	2 6	1 3	6 11	♋
8	Sat	5 33	6 27	12 54	1 49	1 44	7 3	
9	*A*	5 31	6 29	12 58	1 33	2 20	7 55	♌
10	Mo	5 30	6 30	13 0	1 16	2 51	8 50	
11	Tu	5 29	6 31	13 2	1 0	3 20	9 40	♍
12	We	5 27	6 33	13 6	0 44	3 51	10 34	
13	Th	5 26	6 34	13 8	0 28	4 20	11 29	♎
14	Fri	5 24	6 36	13 12	0 12	*rises.*	*morn.*	
15	Sat	5 23	6 37	13 14	*subt.*	8 32	0 27	♏
16	*A*	5 22	6 38	13 16	0 16	9 47	1 25	
17	Mo	5 20	6 40	13 20	0 31	10 54	2 28	♐
18	Tu	5 19	6 41	13 22	0 45	11 50	3 28	
19	We	5 17	6 43	13 26	0 58	*morn.*	4 28	♑
20	Th	5 16	6 44	13 28	1 12	0 36	5 24	
21	Fri	5 15	6 45	13 30	1 24	1 14	6 15	♒
22	Sat	5 13	6 47	13 34	1 37	1 43	7 1	
23	*A*	5 12	6 48	13 36	1 48	2 12	7 43	
24	Mo	5 11	6 49	13 38	2 0	2 35	8 25	♓
25	Tu	5 9	6 51	13 42	2 10	2 57	9 5	
26	W	5 8	6 52	13 44	2 21	3 20	9 46	♈
27	Th	5 7	6 53	13 46	2 31	3 44	10 27	
28	Fri	5 5	6 55	13 50	2 40	4 9	11 10	
29	Sat	5 4	6 56	13 52	2 49	*sets.*	11 54	♉
30	*A*	5 3	6 57	12 54	2 57	8 25	*aft.*	

ALPHABET OF RULES.

Attend well to your business.
Be punctual in your payments.
Consider well before you promise.
Dare to do right.
Envy no man.
Faithfully perform your duty.
Go not in the paths of vice.
Have respect for your character.
Infringe on no one's right.
Know thyself.
Lie not.
Make few acquaintances.
Never profess what you do not practice.
Occupy your time in usefulness.
Postpone nothing that you can well do.
Quarrel not with your neighbor.
Recompense every man for his labor now.
Save something against a day of trouble.
Treat every man with kindness.
Use yourself to moderation.
Vilify no person's reputation.
Watchfully guard against idleness.
Xamine your conduct daily.
Zealously pursue the right path.

A bat about a farmer's room
Not long ago I knew
To *fly*. He caught a *fly*—and then
Flew up the chimney *flue*—
But such a *scene* was never *seen*,
(I am quite sure of that,)
As when with sticks all hands essayed
To hit the *bat* a *bat*.

"Mother," said a young lady, "whereabouts shall I find the *State of Matrimony*?" "Oh," replied the mother, "you will find it among the *United States*."

PATENT AGENCY AND MECHANICAL ENGINEERING, *Office on F street, between 7th and 8th streets, opposite the Patent Office, Washington City, D. C.*—The subscriber has resigned his situation in the patent office (where he for some time superintended the restoration of patents destroyed by fire in 1836) to devote himself to the preparation of specifications and drawings, and all matters connected with the obtaining of patents for useful inventions either in this country or Europe. His experience is theoretical and practical mechanics, together with an intimate knowledge of the progress of the useful arts and manufactures, at home and abroad, will enable him to judge of the novelty and utility of inventions submitted to his examination; and as patents are not granted, under the existing patent laws, when the alleged inventions are wanting in novelty, or contravene the established laws of science, he will be able to furnish all the information necessary to avoid the expense of making application for patents which could not be granted

Having established a foreign correspondence, he will be able to secure patents in Great Britain, France, and other parts of the continent, or furnish information, and prepare all the necessary papers for that purpose.

A model for a machine or apparatus, or specimens for a composition of matter, are required by law, before a patent can issue; by sending a model or specimens to the subscriber, with a short statement of the object of the invention, the necessary papers and drawings will be prepared and forwarded to the applicant for execution, thereby obviating the expenses consequent upon a journey to Washington, or delay in issuing the patent.

Being well acquainted with the patent laws of the United States, England and France, and the decisions of the courts in patent cases, he tenders his services where information is required in reference to infringements of patents, or defence against suits for infringement, such as compiling and arranging evidence, &c.

To individuals and companies wishing to procure drawings and estimates of machinery, or buildings, for manufactories, on the most modern and improved plans, or any other matter connected with mechanical engineering, he will furnish information; and, should it be required, will locate and superintend structures of this description.

Wishing to be generally useful to mechanics and inventors, he will attend to the sale of machinery and patent rights; this, being a place of resort from all parts of the Union, is perhaps the best location for such a purpose.

Papers relating to patents can be sent to the commissioner of patents, when on luminous, free of postage, and models sent to the collectors of the principal ports, will also come free of expense, and the subscriber can be advised thereof by letter, which in all cases must be post paid. All applications for information relating to patents must be accompanied by a fee of five dollars; charges for other business transactions will be made according to their magnitude. J. JAMES GREENOUGH.

Certificate of HON. H. L. ELLSWORTH, *Commissioner of Patents.*
PATENT OFFICE, NOV. 29TH, 1842.

Mr. *J. J. Greenough*, who has for some years been employed in the patent office, in a highly responsible situation, under the act of 1836, restoring the records, having to my regret tendered his resignation, I take great pleasure in recommending him as a gentleman worthy of confidence, and as being particularly qualified to take charge of any business requiring a knowledge of mechanical science, the progress of the arts, and patent improvements. Mr. Greenough is also well acquainted with the practice of this office. HENRY L. ELLSWORTH.

REFERENCES.—Hon. S. Prentiss, of *Vt.*, U. S. Senate; Hon. J. P. Kennedy, of *Md.*, U. S. House of Rep.; Hon. John C. Clark, of *N. Y.*, U. S. House of Rep.; Hon W. Cranch, *Chief Justice, D. C.*; J. W. Hand, Esq., *Chief Clerk, Patent Office*; C. M. Keeler, Esq., *Examiner, Patent Office.*

Encourage American manufacture—under this we prosper.

WEAVER & RICHARDSON, Umbrellas and Parasols made, covered and repaired, in the neatest and most durable style, at No. 66 Green street, Albany, opposite the first Baptist church. N. B. Umbrellas can be furnished by the dozen at short notice. 47

PRINTING.—Every kind of letter press printing will be done to order on short notice at the office of the Mechanic, in the best manner and at reasonable prices. Business, visiting and wedding cards executed in a superior style on an hour's notice. New and fashionable type for books and pamphlets; hand bills of every size and style; circulars, bill heads, &c. &c.

AGENTS WANTED.

Mechanics out of employment may find it a paying business to solicit subscribers for this paper in their vicinities and among their friends. Applications, post paid, directed to this office will meet with attention; they should be accompanied by certificates of character and responsibility.

The following local agents are authorized to receive subscriptions and money for this paper.

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